

Supplemental Preliminary Amendment
USSN 10/614,824
Attorney Docket Q76374
May 2, 2005

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) Machining system (SYS) for the machining of workpieces, in particular of workpieces located on a production line comprising:
 - a) a large number of tool units, each with an electrically controllable machining tool and a holding unit;
 - b) a sliding support mechanism in which the holding units are held in sequence, whereby the holding units are held in the sliding support mechanism in such a way that they can slide; and
 - c) a large number of control units for setting an individual machining tool to a set of predefined machining parameters in order to execute a predefined machining process;

characterised-characterized in that

- d) each tool unit includes a position determining unit, which determines the position of the individual tool unit along the sliding support mechanism;
- e) the control unit is part of the tool unit; and the control unit sets the individual machining tool to a particular set of machining parameters according to the position of the tool unit determined by the position determining unit.

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2. (Currently Amended) Machining system according to claim 1,
characterised-characterized in that
a large number of machining parameter sets, each assigned to specific position ranges of the tool unit, are stored in the control units for the individual tool units.
3. (Currently Amended) Machining system according to claim 1,
characterised-characterized in that
a central processing unit is provided, which sets the machining parameter sets in the individual control units.
4. (Currently Amended) Machining system according to claim 2,
characterised-characterized in that
when a new tool unit is added to the sliding support mechanism, the central processing unit reconfigures the machining parameter sets and/or the position ranges.
5. (Currently Amended) Machining system according to claim 1,
characterised-characterized in that
a power supply system is provided to supply power to the control units, whereby the power supply system is part of the sliding support mechanism and the sliding support mechanism and the holding units are designed in such a way that electrical power is at least supplied to the control unit for the tool units, regardless of the position of the tool unit.
6. (Currently Amended) Machining system according to claim 1,

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characterised-characterized in that

the sliding support mechanism is a roller rail and the holding unit is a ~~travelling~~
traveling box suspended in the holding rail.

7. (Currently Amended) Machining system according to claim 6,

characterised-characterized in that

a current conductor is integrated into the roller rail and the traveling boxes include
a current collecting device to take current and supply it to the individual control
unit.

8. (Currently Amended) Machining system according to claim 1,

characterised-characterized in that

the position determining device determines the relative distance to a reference
point along the sliding support mechanism.

9. (Currently Amended) Machining system according to claim 8,

characterised-characterized in that

at least a part of the roller rail is formed from a conductive material, the central
processing system applies a preset measuring voltage to the conductive part and
the position determining device measures the voltage drop along the busbar in
order to determine the position.

10. (Currently Amended) Machining system according to claim 8,

characterised-characterized in that

a resistance measuring strip is integrated into the roller rail and the position

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measuring device measures the resistance along the busbar in order to determine the position.

11. (Currently Amended) Machining system according to claim 8,
characterised-characterized in that
the position determining device performs a laser distance measurement to the reference point in order to determine the position.
12. (Currently Amended) Machining system according to claim 1,
characterised-characterized in that
a workpiece position determining device is provided to determine the position of the individual workpieces on a production line above which the sliding support mechanism is provided.
13. (Currently Amended) Machining system according to claim 1,
characterised-characterized in that
the workpiece position determining device includes a workpiece speed detection device.
14. (Currently Amended) Machining system according to claim 1,
characterised-characterized in that
the central processing system supplies a predefined power to the power supply system.
15. (Currently Amended) Machining system according to claim 14,
characterised-characterized in that

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the central processing includes system includes a voltage transformer.

16. (Currently Amended) Machining system according to claim 14,

characterised-characterized in that

each tool unit includes a voltage transformer.

17. (Currently Amended) Machining system according to claim 3,

characterised-characterized in that

the central processing system together with the individual control unit carries out settings via a radio or infrared interface.

18. (Currently Amended) Machining system according to claim 6,

characterised-characterized in that

the central processing system together with the individual control units sets the machining parameter sets by means of an integral data bus provided in the roller rail, whereby the travelling traveling box includes a data receiving device to receive data from the data bus and to supply it to the individual control unit.

19. (Currently Amended) Machining system according to claim 6,

characterised-characterized in that

the central processing system together with the individual control units communicates via communication signals, which are modulated to the busbar.

20. (Currently Amended) Machining system according to claim 6,

characterised-characterized in that

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the machining tool is a hand-operated single tool or a multiple machining tool.

21. (Currently Amended) Tool unit in a machining system (SYS) for the machining of workpieces, in particular of workpieces located on a production line, comprising:
- a) an electrically controllable machining tool; and
 - b) a holding unit to be held in a sliding support mechanism in the machining system (SYS);
- characterised-characterized in that*
- c) a control unit is provided for setting the machining tool to a set of predefined machining parameters in order to execute a predefined machining process;
 - d) each tool unit includes a position determining unit, which determines the position of the individual tool unit along the sliding support mechanism; and
 - e) the control unit sets the individual machining tool to a particular set of machining parameters according to the position of the tool unit determined by the position determining unit.

22. (Currently Amended) Tool unit according to claim 20,

characterised-characterized in that

a large number of machining parameter sets, each assigned to specific position ranges of the tool unit, are stored in the control unit.

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23. (Currently Amended) Tool unit according to claim 20,

characterised-characterized in that

the holding unit is a suspended ~~travelling~~traveling box.

24. (Currently Amended) Tool unit according to claim 23,

characterised-characterized in that

the ~~travelling~~traveling box includes a current collecting device.

25. (Currently Amended) Tool unit according to claim 20,

characterised-characterized in that

the position determining device determines the relative distance to a reference point along the sliding support mechanism.

26. (Currently Amended) Tool unit according to claim 20,

characterised-characterized in that

the position determining device measures the voltage drop or the resistance along a busbar in order to determine the position.

27. (Currently Amended) Tool unit according to claim 20,

characterised-characterized in that

the position determining device performs a laser distance measurement in order to determine the position.

28. (Currently Amended) Tool unit according to claim 6,

characterised-characterized in that

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the machining tool is a hand-operated single tool or a multiple machining tool.

29. (Currently Amended) Tool unit according to claim 6,

characterised-characterized in that

an alarm system is provided in the control unit to issue an alarm if the control unit determines from the position determined by the position determining device that a position range violation has occurred.

30. (Currently Amended) Machining system according to claim 1,

characterised-characterized in that

an alarm system is provided in the control unit to issue an alarm if the control unit determines from the position determined by the position determining device that a position range violation has occurred.